

## Direct Mathematics Assessment

Approximate length Goal for Main Study	30 minutes (part of 90-minute student session)
Mode of administration	Computerized administration using Chromebooks, tablet-like computers with touchscreen capability and an attached keyboard, that will be brought in to the school by the study
Key constructs (bullets represent learning progression)	<p><b>Number System</b></p> <ul style="list-style-type: none"><li>• finding common factors and multiples</li><li>• comparing fractions</li><li>• applying basic operations with fractions and integers to word problems</li><li>• using basic operations</li><li>• representing and understanding rational numbers in multiple forms</li><li>• understanding the relative size of irrational numbers</li></ul> <p><b>Proportional Relationships</b></p> <ul style="list-style-type: none"><li>• extending students' understanding of the number system</li><li>• multiplying and dividing fractions and multiplicative thinking</li><li>• understanding basic concepts of ratio, rate and proportional relationships</li><li>• using rational numbers to solve problems and understand slope and functions</li></ul> <p><b>Expressions and Equations</b></p> <ul style="list-style-type: none"><li>• understanding the use of expressions beginning with letter representations of a single number</li><li>• applying knowledge of rational numbers and operations to solve equations</li><li>• constructing equations and inequalities to solve real-world problems</li><li>• recognizing different types of notation (such as square root)</li><li>• reasoning with equalities and inequalities</li><li>• solving and representing linear equations and inequalities</li></ul> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• understanding the definition of a function</li><li>• comparing functions represented in different ways</li><li>• distinguishing between linear and nonlinear functions</li><li>• comparing and creating representations of different functions</li><li>• understanding of functions to context</li></ul>